

FIG. 1

FIG. 1

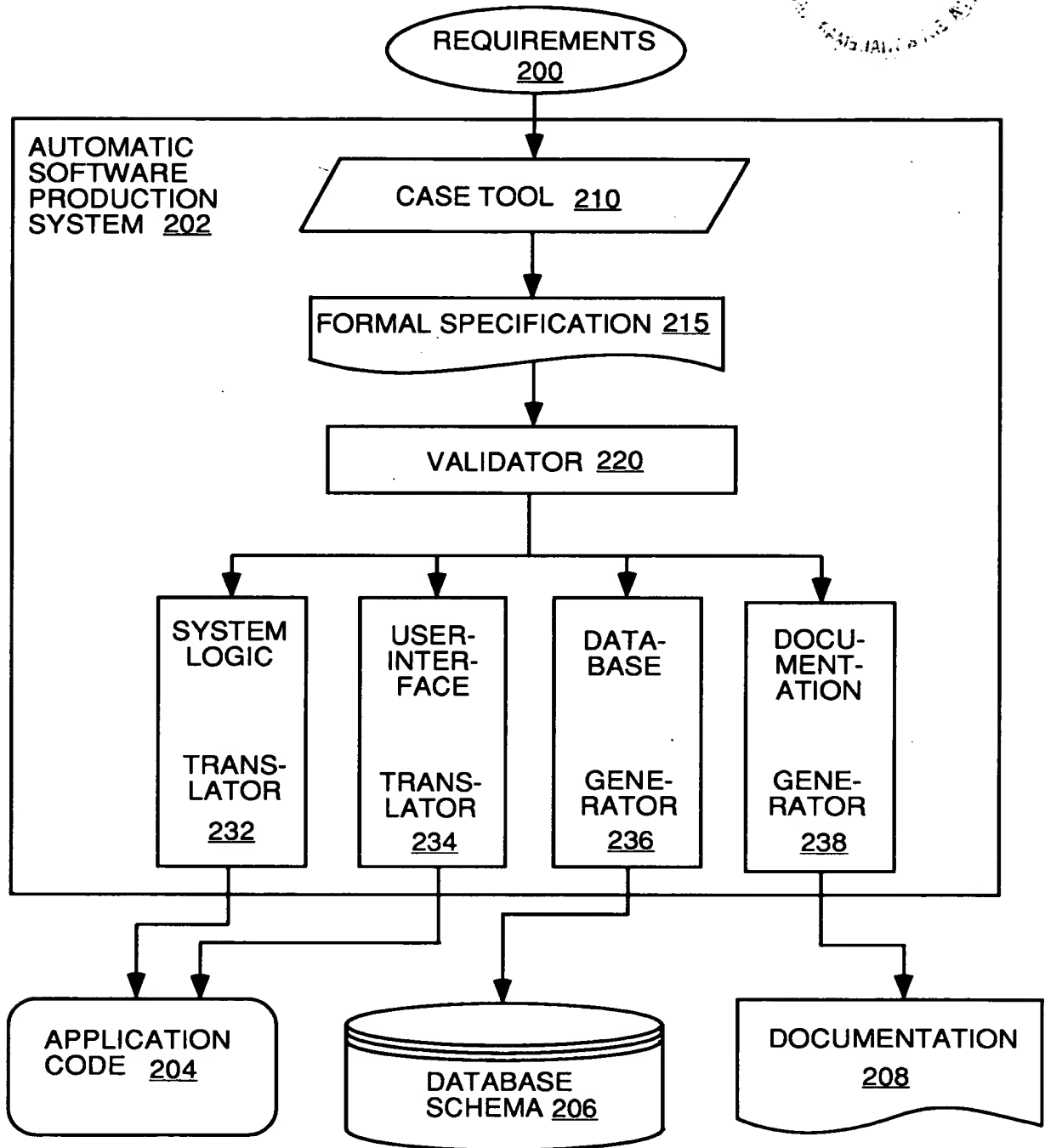
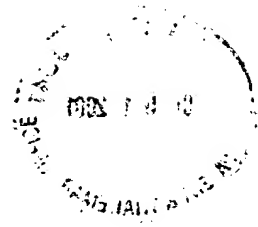


FIG. 2

FOOT" 28022860

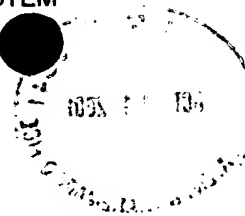
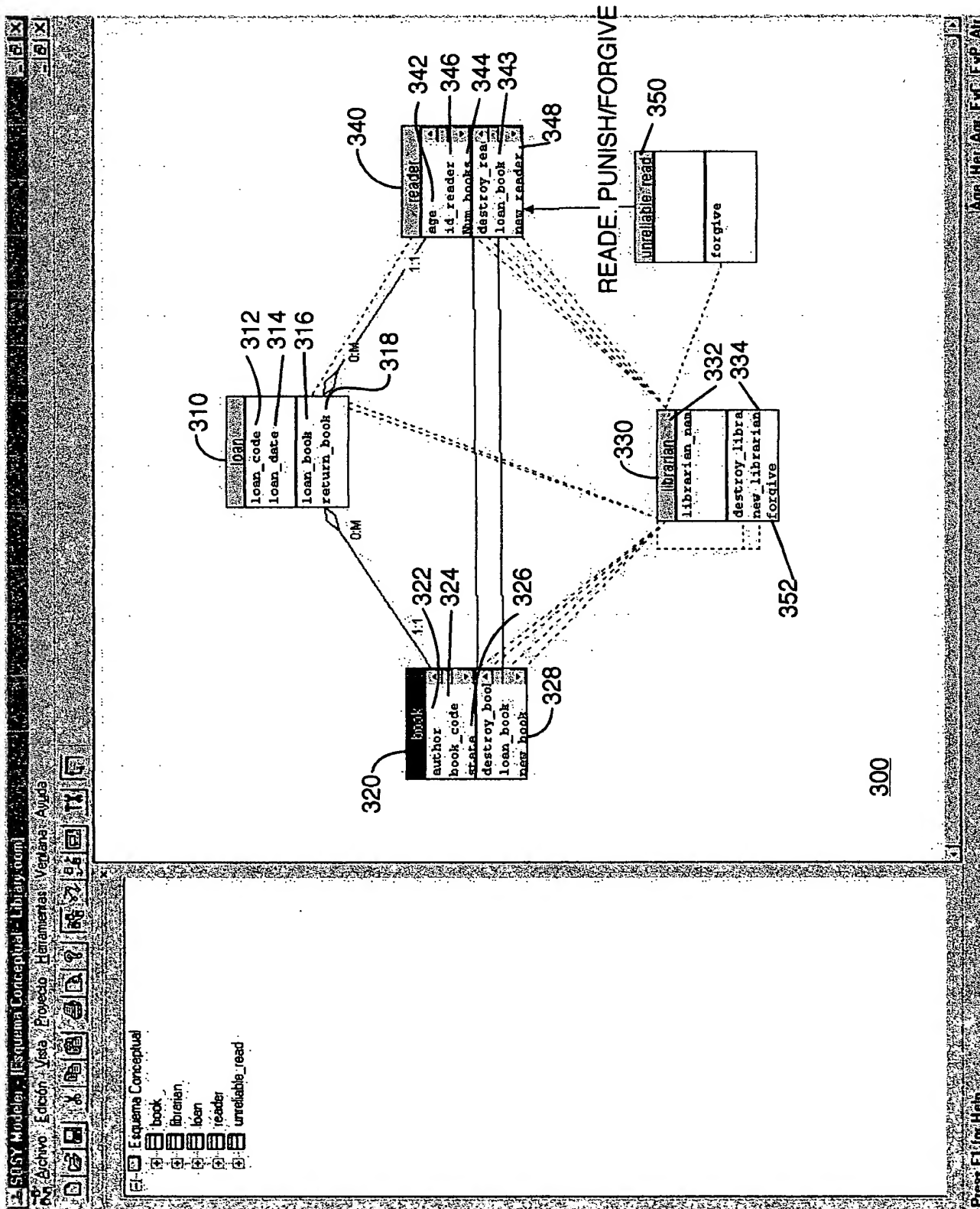
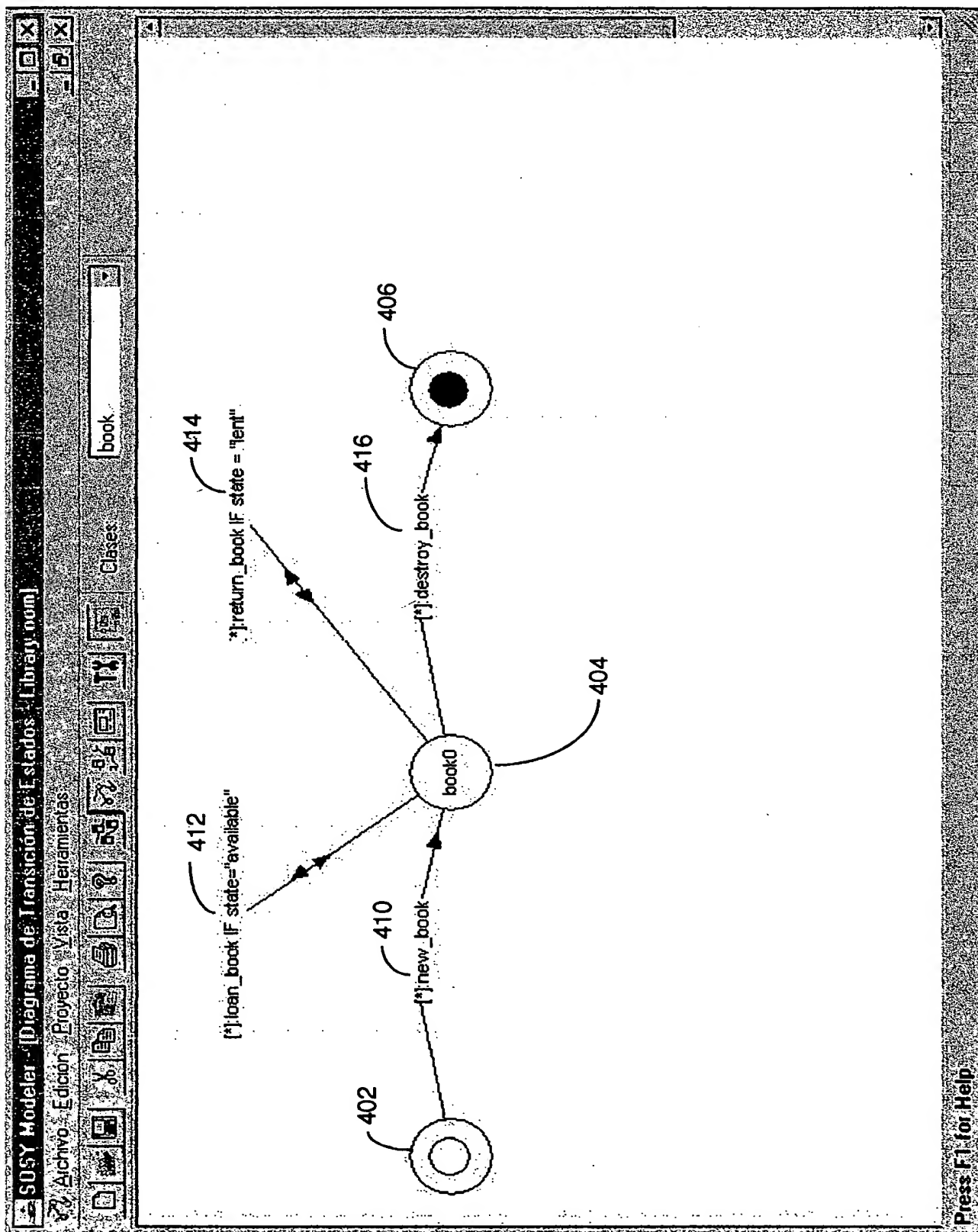


FIG. 3



707007" 2802/860

FIG.  
4A



FOOT" 28024860

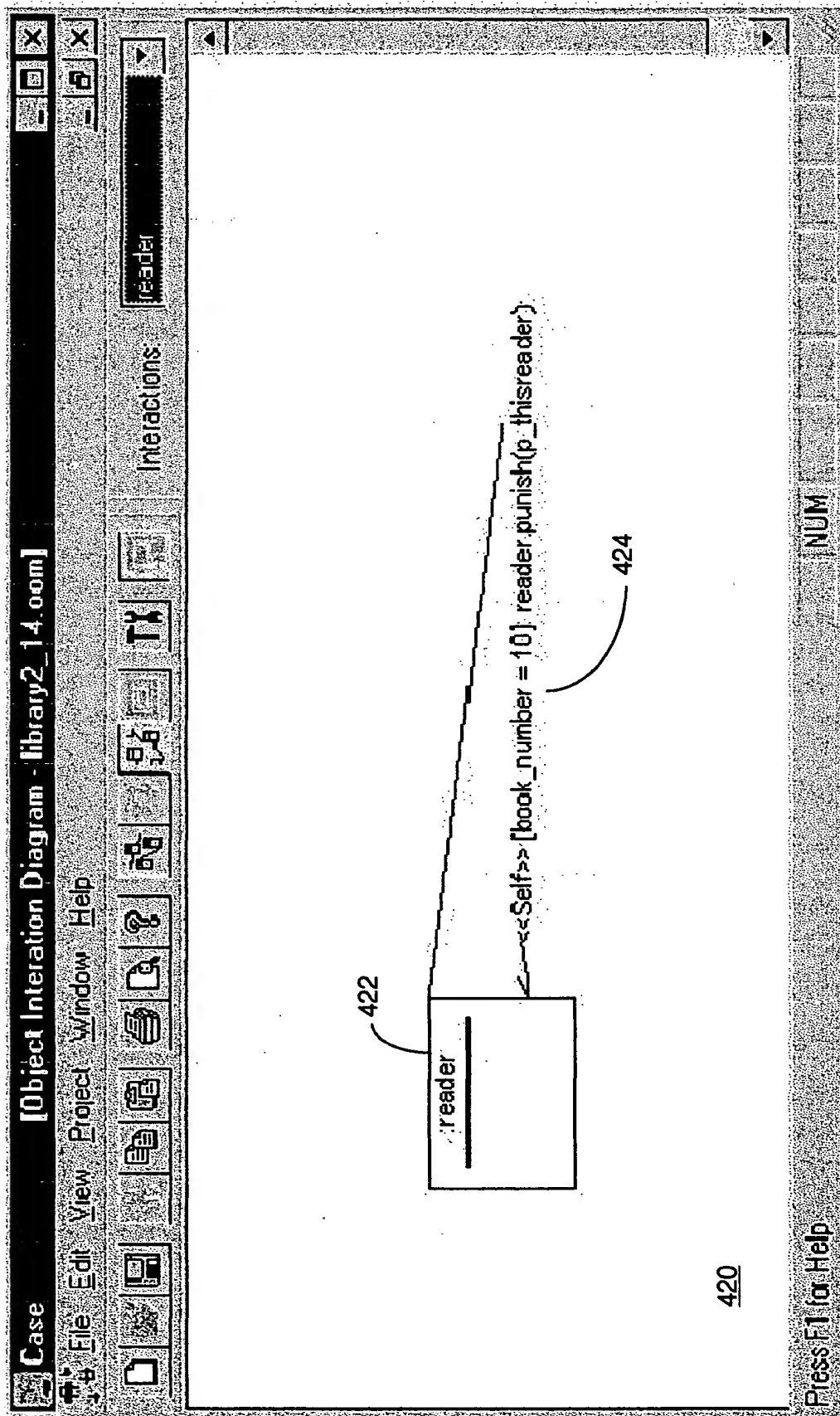
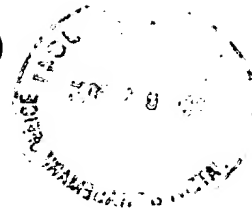


FIG. 4B

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Functional Model

Class:  Attribute:

OK Cancel

Event	Effect	Condition
loan_book	+1	
return_book	-1	

Add Modify Delete

Category: ☒ Push-pop ☐ State-independent ☐ Discrete-domain

Valuation Details

Event:  Action type:

Valuation condition:

Effect of the event:

FIG. 5

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES OF SYSTEM LOGIC  
TRANSLATORS WILL PREFORM

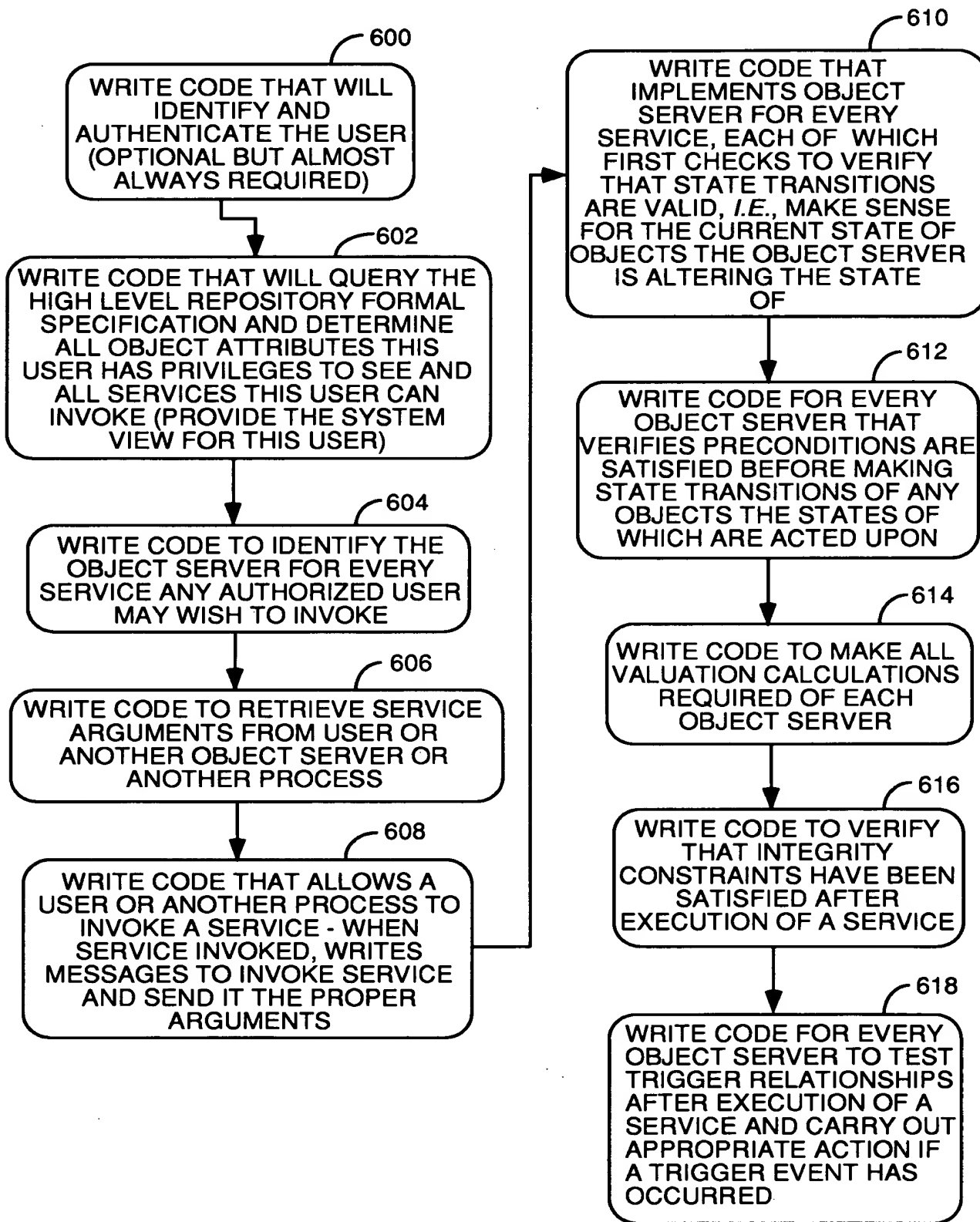


FIG. 6

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE USER INTERFACE  
TRANSLATOR SUBGENUS WILL PREFORM

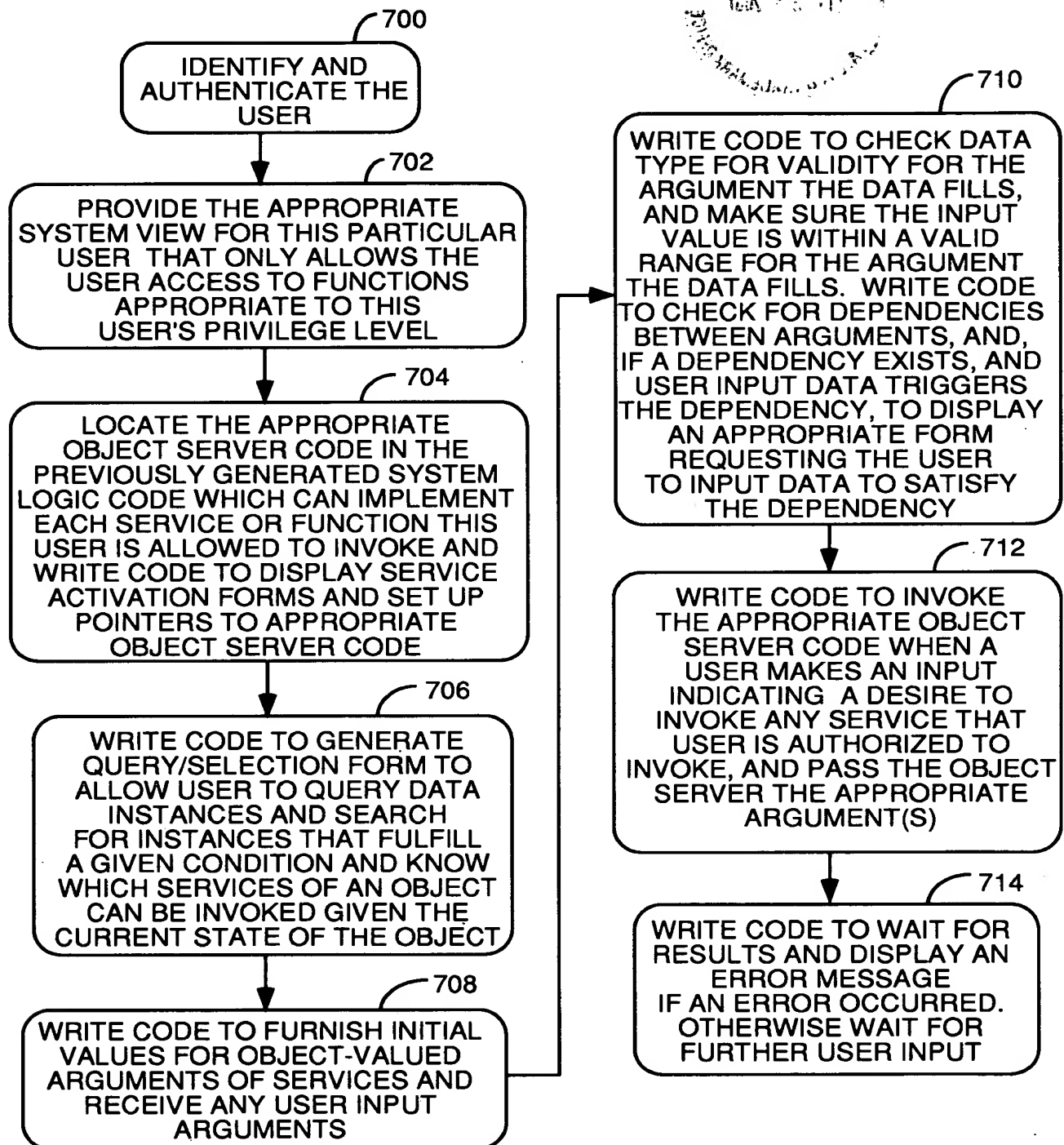


FIG. 7

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE DATABASE  
GENERATOR TRANSLATOR SUBGENUS WILL PERFORM

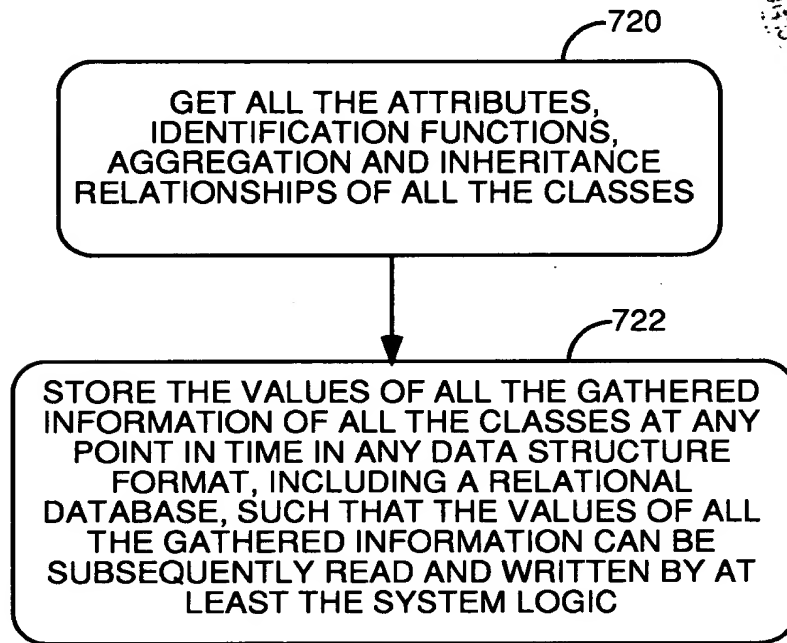


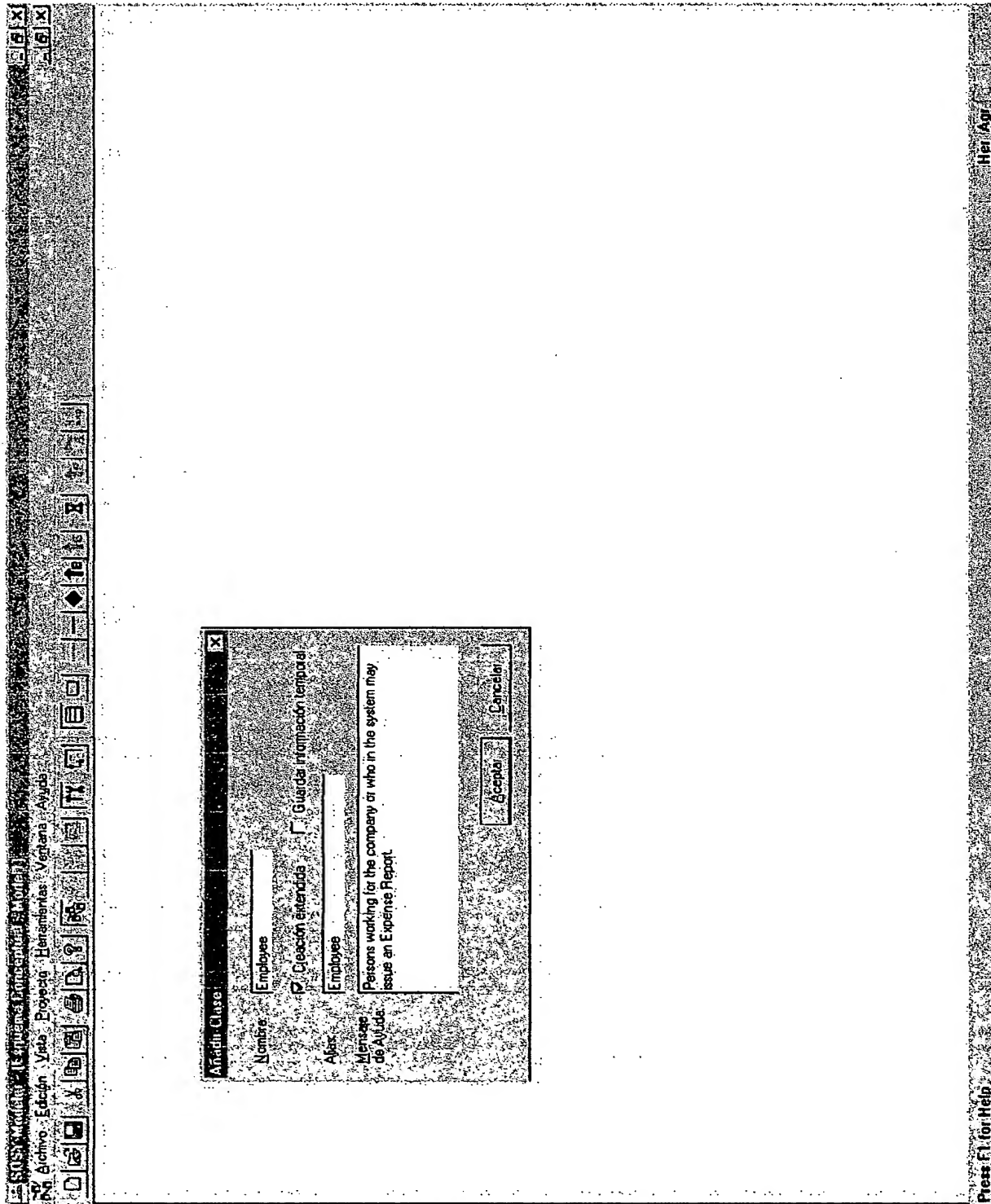
FIG. 8

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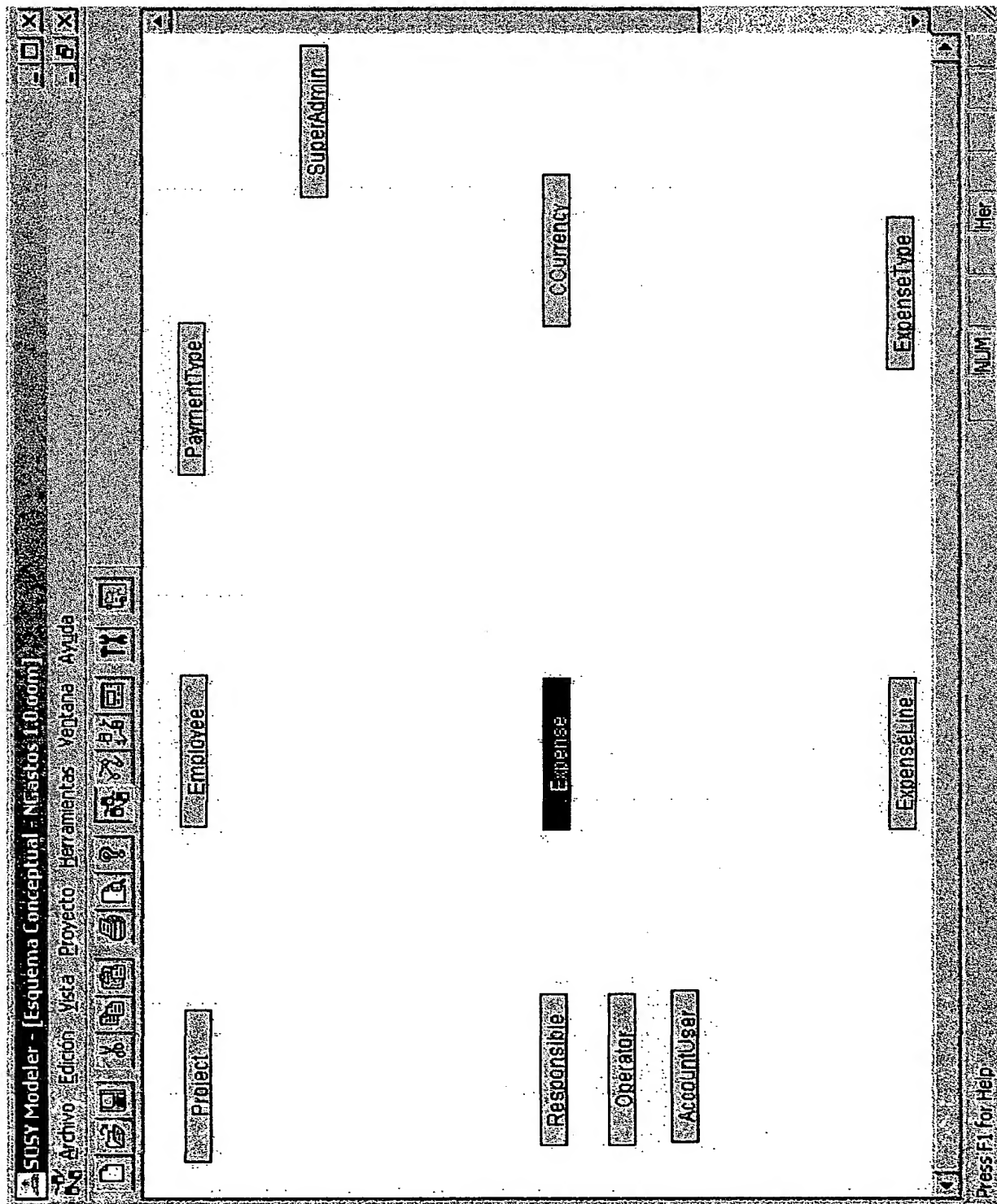
AUTOMATIC SOFTWARE PRODUCTION SYSTEM  
INVENTOR: IBORRA AND PASTOR  
PATENT NO. 09/872,087  
FILING DATE: 06/01/01  
DOCKET NO. CHG-001.2P

CLASS CREATION  
DIALOG

FIG. 9A



**FIG. 9B**



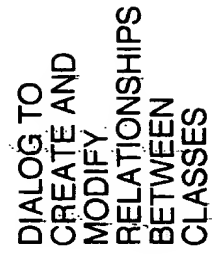
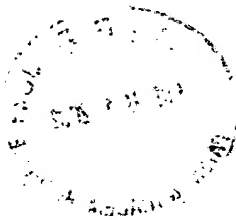


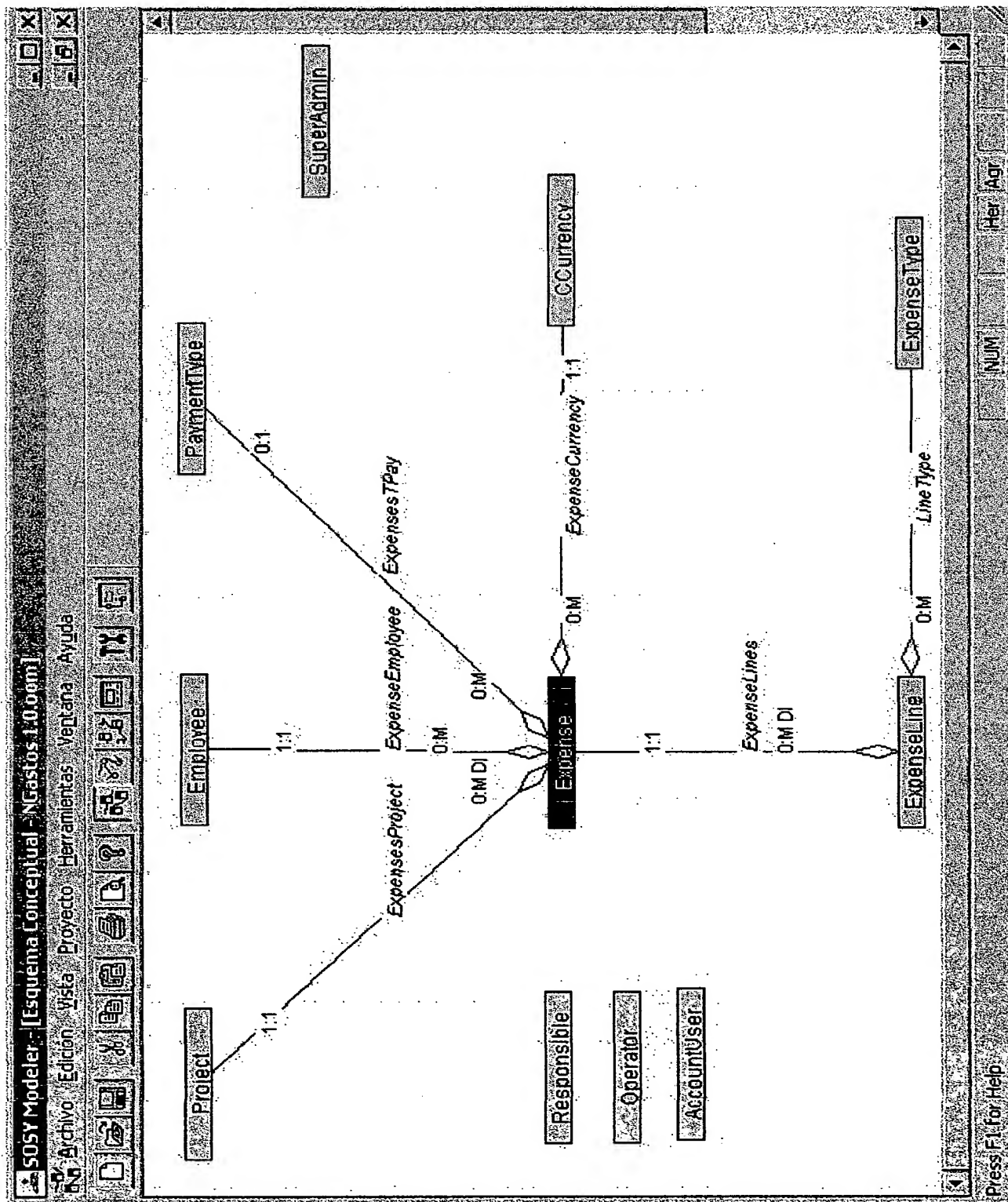
FIG. 3C

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GRAPHIC DIALOG  
TO CREATE  
RELATIONSHIPS  
BETWEEN  
CLASSES AND  
GRAPHICALLY  
SHOW THE  
RELATIONSHIPS  
SO CREATED

FIG. 10



TOTOT"2822860

Clase

Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Atributos

Nombre	Tipo atributo	Tipo dato	Id	Tamaño	Valor defecto	Pedir al crear	Nulos
PresentDate	Constante	Date			today()	Si	No
Status	Variable	Int			0	No	No
Cause	Variable	String		255		Si	No
AuthoDate	Variable	Date			NULL	No	Si
AuthoComments	Variable	String		255	NULL	No	Si
PaymentDate	Variable	Date			NULL	No	Si
PayComments	Variable	String		255	NULL	No	Si
TotExpenses	Derivado	Real					
TotExpensesCur	Derivado	Real					
Advances	Variable	Real			0	Si	No
AdvancesCur	Derivado	Real					
Exchange	Variable	Real				No	Si
Balance	Derivado	Real					
BalanceCur	Derivado	Real					

Añadir

Modificar

Borrar

Nombre

Tipo Atributo

Tipo Dato

Limpiar

Notas>>

☐ Información Temporal

Alias

Observaciones

Clase

Expense

Aceptar

Cancelar

FIG. 11A

TOTOT" 2802/860

Clase

Atributos

Servicios

Derivaciones

Restricciones

Agentes

Transacciones

Relaciones

Generalidades

Atributo

Balance

Fórmulas de Derivación

Condición

Fórmula

TotExpenses - Advances

Condición

Fórmula

Observaciones

Añadir

Modificar

Borrar

Clase:

Expense

Aceptar

Cancelar

FIG. 11B

TOTOT" 28022860

SERVICES OF CLASS  
"EXPENSE"

FIG. 12

Clase: Expense

Atributos

Servicios

Derivaciones

Restricciones

Agentes

Transacciones

Relaciones

Generalidades

Eventos y Transacciones

Servicios

Nombre	Características
newexpense	New
delexpense	Destroy
modify	
close	
authorize	
approve	
pay	
rejectautho	
rejectpayment	
InsPaymentType	Shared with PaymentType
BotPaymentType	Shared with PaymentType
DELETEALL	Tran
TPAY	Tran

Añadir

Modificar

Borrar

Copiar

Limpia

Notas >>

Parámetros

Nombre	Tipo dato
p_thisExpense	Expense
p_Cause	String
p_Advances	Real
p_Exchange	Real

Añadir

Modificar

Borrar

Notas >>

Nombre

Tipo dato

Nombre

Tamaño

Alias

Valor por defecto

Observaciones

Nombre

Modificar

Transacción

New

Destroy

Uso interno

Edit a Expense Report

Allows to edit some data of ar

Observaciones

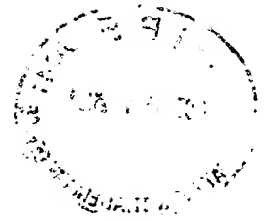
Clase:

Expense

Acceptar

Cancelar

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DIALOG TO DEFINE  
FORMULA FOR  
"DELETEALL"  
TRANSACTION

FIG. 13

Clase: [Expense] [v]

Atributos: Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Transacción: [DELETEALL] [v]

Fórmula

FOR ALL Lines DO Lines.deleteAll( Lines ). deleteExpense( THIS )

Acción: [Expense] [v]

Clase/Rol: [Expense] [v]

Agentes: [Service] [v] [Approve] [v] [p\_thisExpense] [v] [Iniciar] [v]

Observaciones: [ ]

Detalles: [ ]

Crear Parámetro en la Transacción: [ ]

Gr [ ] and [ ] acción [ ]

Aceptar [ ] Cancelar [ ]

TOTOT" 28022860

INTEGRITY  
CONSTRAINTS OF  
EXPENSE CLASS

FIG. 14

Clase

Atributos | Servicios | Derivaciones | Restricciones | Agentes | Transacciones | Relaciones | Generalidades

Estáticas

Exchange > 0

1

Formulas

Exchange > 0

Message De Error

Exchange must be greater than zero.

Dynamicas

Oper Temporal

Condicion1

Oper Temporal

Condicion2

Formulas

Message De Error

Clase: Expense

Aceptar

Cancelar

Añadir

Modificar

Borrar

Heredadas



**Modelo Funcional**

Clase: Expense Atributo: Cause

Evento: Efecto Condición

modificar = p\_Cause

☐ Cardinal
 ☒ De Estado
 ☐ De Situación

Detalles de Evaluación

Evento: modificar

Condición de evaluación

IF

724 Inferir para el resto de atributos

726

Efecto del evento

p\_Cause

DIALOG BOX TO CREATE  
EVALUATION OF "CAUSE"  
ATTRIBUTE WITH THE "MODIFY"  
EVENT TO FORM PART OF  
FUNCTIONAL MODEL

FIG. 15

TOTOT" 2802/860

AGENT RELATIONSHIP  
DIALOG THAT CAN BE  
USED TO SET WHICH  
SERVICES "ACCOUNT  
USE" CAN ACCESS  
AND VISIBILITY OF  
CLASS ATTRIBUTES  
FOR THIS USER

FIG. 16

Class: **AccountUser**

Attributes: **AccountUser** | Derivaciones: **Restricciones** | Agentes: **Expendise** | Transacciones: **Relaciones** | Generalidades: **Relaciones**

Clase servidora: **Expendise**

Servicios:

Servicio	Temporalidad
newexpense	No
modify	No
close	No
authorize	No
rejectautho	No
DELETEALL	No

Buttons: **Agadir** | **Editar** | **Todos>>>**

Clase AccountUser tiene visibilidad sobre:

Hacer temporal | No hacer temporal

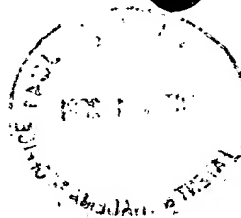
Atributos:

Atributos
Expense.id_Expense
Expense.PresentIDate
Expense.Status
Expense.PaymentDate
Expense.PayComments
Expense.AuthoDate
Expense.TotalExpenses
Expense.TotalExpensesCur
Expense.Advances

Buttons: **Agadir** | **Editar** | **Todos>>>**

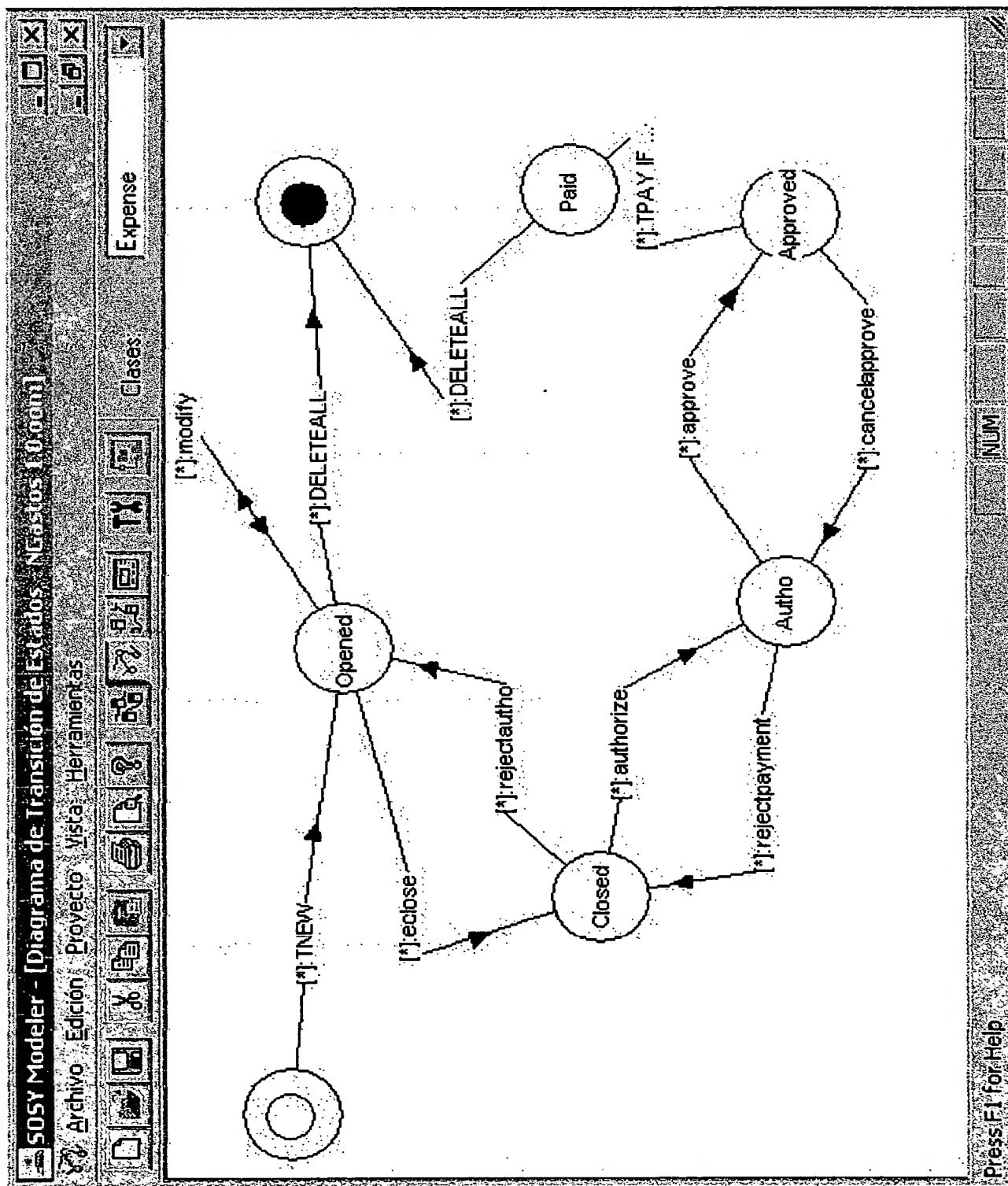
Clase: **AccountUser** | **Aceptar** | **Cancelar**

FOOT" 2802/860



STATE TRANSITION  
DIAGRAM FOR  
CLASS "EXPENSE"

FIG. 17



TPAY 2002/01/01



DIALOG BOX TO  
MODEL  
PRECONDITION

FIG. 18

Transición

Origen:  Destino:

Detalles

Agentes:

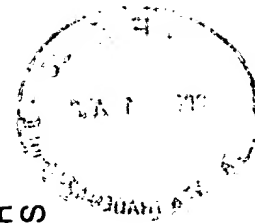
Servicio:

Precondición:  
Balance > 0 OR ps\_ReturnAdvance = TRUE

Condición de control:

Mensaje en caso de Error:  
Check the advanced money excess

TOTDOT" 2802/860



DIALOG BOX USED BY  
SOSY MODELER  
TO ESTABLISH A SET OF  
ATTRIBUTES  
TO BE DISPLAYED FOR  
THE "EXPENSE" CLASS

FIG. 19

Conjunto de Visualización

Nombre: CV\_Expense

Limpiar Borrar

Atributos a visualizar:

Atributo	Tipo dato
Project.ProjectName	String
Employee.EmpName	String
Employee.EmpSur...	String
Status	Int
AuthoDate	Date
PaymentDate	Date
TotExpenses	Real
Balance	Real

<< Añadir  
Eliminar >>  
Subir  
Bajar  
Agregar

Atributos:

Atributo	Tipo dato
Cause	String
AuthoDate	Date
AuthoComments	String
PaymentDate	Date
PayComments	String
TotExpenses	Real
TotExpensesCur	Real
Advances	Real
AdvancesCur	Real
Exchange	Real
Balance	Real
BalanceCur	Real

Clase Expense

Aceptar Cancelar

DIALOG BOX USED BY  
SOSY MODELER  
TO ESTABLISH THE  
SEARCHING CRITERIA  
FOR THE EXPENSE  
CLASS AND TO ESTABLISH  
THE FILTER FORMULA  
TO USE AND THE  
VARIABLES TO REQUEST  
THE USER TO ENTER

FIG. 20

Filtro

Filtro

Expense Reports

Alias

Limpia

Borra

Formula

Project = vf\_Project AND Employee = vf\_Employee AND PresentDate >= vf\_DateIniIssue AND PresentDate <= vf\_DateEndIssue AND AuthoDate >= vf\_DateIniApp AND AuthoDate <= vf\_DateEndApp AND PaymentDate >= vf\_DateIniPay AND PaymentDate <= vf\_DateEndPay AND

Observ

Variables

Nombre	Alias	Tipo dato	Tipo estilo	Estilo	Nueva	Modificar	Borra
vf_Project	Project	Project	Sel. Población				
vf_Employee	Employee	Employee	Sel. Población				
vf_DateIniIssue	Initial Issuing Date	Date					
vf_DateEndIssue	Final Issuing Date	Date					
vf_DateIniApp	Initial Approving D	Date					

Simple

Objeto-valorado

Nombre

Alias

Tipo de dato

Estilo de introd

Estilo de selección

Clase Expense

Aceptar

Cancelar

FLOWCHART OF THE FUNCTIONS THAT ALL SPECIES IN THE  
DOCUMENTATION GENERATOR TRANSLATOR SUBGENUS WILL PERFORM

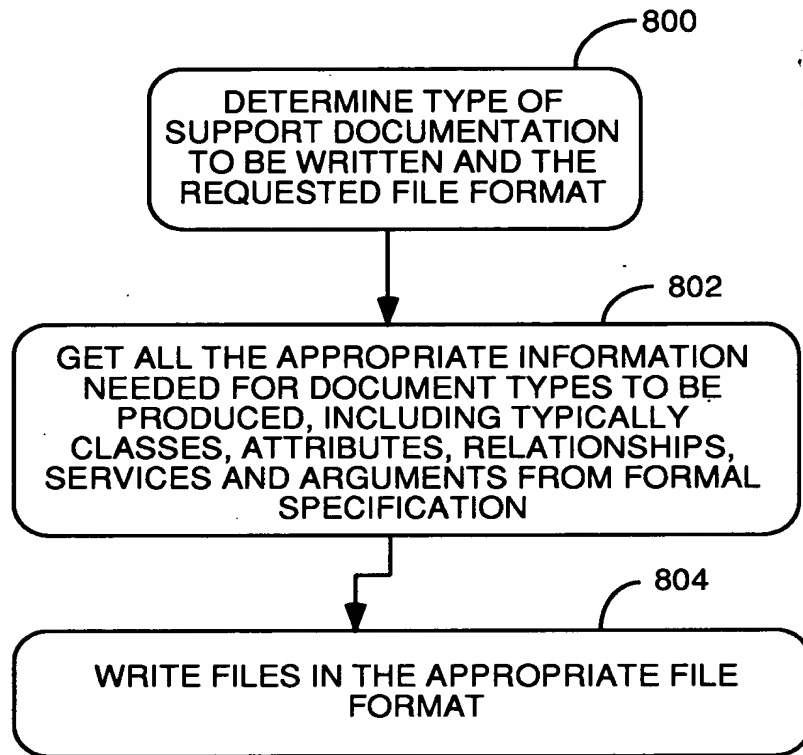


FIG. 21

09872087 " 100401